

Abstract

The invention comprises a belt drive system for automatically controlling a belt tension. The system comprises an actuator controlled by a control module. The actuator operates on a pivoted pulley. A belt is trained about the pivoted pulley as well as other pulleys driving various accessories. A series of sensors in the system detect a belt condition including a belt tension. Sensor signals are transmitted to the control module. The control module processes the signals and instructs the actuator to move the pivoted pulley, thereby increasing or decreasing a belt tension. A feedback loop from the sensors to the control module allows the belt tension to be continuously monitored and adjusted many times per second. The system may actively control a belt tension by anticipating a system condition to prevent a belt noise by comparing sensor signals to instructions stored in a control module memory.